

March 16, 1950.

Dr. H. C. Nicholson,
Executive Secretary,
Committee on Growth,
National Research Council,
2101 Constitution Ave.,
Washington 25, D.C.

Dear Dr. Nicholson:

I have your request for further information concerning a fellowship application from Mr. Englesberg.

The line of research that I hope to encourage Mr. Englesberg to follow concerns the conditions of spontaneous mutation in bacteria, particularly *Escherichia coli*, strain K-12. It has been reported by several workers, using different bacterial species, that spontaneous mutations occur only during growth, and do not accumulate in bacterial populations suspended in non-nutrient media. This conclusion should be reinvestigated with a view to determining the closeness of the relationship between growth and mutation rates. As a first step, the occurrence of spontaneous mutations in bacterial cultures whose growth rate is regulated in a variety of ways -- temperature, metabolic inhibitors, deprivation of carbon, nitrogen, or specific nutrients, etc.,-- will be studied.

Mr. Englesberg is also interested in a related problem, concerning the role of natural metabolic products as the inciters of "spontaneous mutation". This concept, which might have seemed rather farfetched a few years ago, has some support now in the implication of such simple substances as formaldehyde (or other aliphatic aldehydes?) and hydrogen peroxide as mutafacient chemicals.

As I do not know Mr. Englesberg personally, I can give no direct information as to his qualifications. In deciding to accept him as a fellow here, I have had to rely on the commendatory remarks of Drs. Stanier and Doudoroff. From what they have told me, I am looking forward to the association, and certainly hope that your committee will award him the fellowship under consideration.

Yours sincerely,

Joshua Lederberg,
Assistant Professor of Genetics